

## **ABSTRACT**

A charging circuit for controlling a system charging parameter provided to a host of rechargeable batteries, wherein the host of batteries includes at least a first battery and second battery that may be coupled in parallel. The charging circuit provides for fast charging of rechargeable batteries in parallel.

Independent current and voltage sensing for each battery enables parallel charging of batteries at different charging currents. The charging circuit may be configured to accept either analog or digital signals from an associated power management unit.